

# **Regulatory Impact Analysis of “Revisions to the Public Housing Operating Fund Program” (FR-4874-P-01)**

## **Executive Summary**

This proposed rule revises the regulations for the Public Housing Operating Fund program, which distributes operating subsidies to public housing agencies (PHAs). The underlying basis for these revisions is the recommendations of the Congressionally directed Public Housing Operating Cost Study conducted by the Harvard University Graduate School of Design. The regulatory changes in this rule reflect the recommendations made by a negotiated rulemaking committee on ways to improve and clarify the current regulations governing the Operating Fund Program, with some modifications to better reflect Administration policies and budgetary priorities.

More specifically, the rule attempts to achieve three objectives:

- Provide more explicit guidance on the expected outcomes contained in the operating subsidy formula;
- Streamline and simplify the operating subsidy calculation to:
  - Determine appropriate subsidy amounts for each PHA by project;
  - Distribute those amounts in a timely and accurate manner;
  - Use effective administrative control of funds;
  - Reduce reporting errors and facilitate more efficient and robust data collection;
- Improve the operating subsidy estimation process by placing more emphasis on actual or historical data rather than on forecasted information.

The purpose of this Regulatory Impact Analysis (RIA) is to discuss the economic impact of the implementation of the proposed rule. However, because this is a revision of an existing rule, this analysis focuses on the added benefits or losses resulting from the revisions to the current rule.

It was determined that the rule would be a major rule under E.O. 12866 because it results in transfers<sup>1</sup> of funding levels to and among PHAs of more than \$100 million a year. This analysis finds that the full implementation cost of the rule is approximately \$74 million in 2003 dollars in increased operating subsidy eligibility. The transition funding provisions, which are intended to provide a transition period for PHAs with subsidy changes, would result in varying costs over a five year period when compared to the fully phased in subsidy change, which would occur in year 5 of rule implementation. The rule alters the flow of transfers to housing agencies and, as such, would have a direct financial consequence on the federal budget and on individual PHAs and their tenants.

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<sup>1</sup> The standard definition of a “transfer” in public economics is the provision of an economic benefit by a government to individuals in order to increase their welfare. A transfer could be monetary but many transfers are in-kind, such as housing assistance, Medicaid, food stamps, or public education. The word “transfer” is also used in this text to signify a redistribution of economic benefits from one group to another. For example, an increase in funds spent on public housing is effectively a transfer from taxpayers to program participants.

At the onset, the immediate consequences of the proposed rule are:

- Using FY 2003 dollars and assuming funding at 100 percent of eligibility, public housing program funding eligibility for operating subsidies would increase by \$83 million over the 5-year period and by about \$74 million a year in 2003 dollars when fully implemented.
- Changes in operating subsidy allocations resulting from the rule would be phased in over four years for PHAs having subsidy eligibility increases and over five years for those with subsidy eligibility decreases; thus the increase in Operating Fund eligibility and the change in distribution of funds will be less during the transition than in the full implementation of the proposed rule in the fifth year.

### **Background on the Public Housing Operating Subsidy Program**

Under the Housing Act of 1937, as amended, Congress created the federal public housing program to assist communities in providing decent, safe, and sanitary dwellings for low-income families. It was not until 1975 that HUD established a permanent system known as the Performance Funding System (PFS) for subsidizing public housing. For most of the intervening period the public housing program was self-sufficient, because PHAs had the discretion to set rents high enough to cover all operating costs. The program began to move toward serving poorer households with the Housing Act of 1949, which required incomes of eligible households to be 20 percent below the income necessary to rent decent private housing. During the 1950s and 1960s the average income of public housing tenants began to fall as upwardly mobile households found affordable housing elsewhere. By 1969, public housing had increasingly come to serve the poorest households, who often had difficulty paying rents that were high enough to cover the full costs of public housing operations. As a result, Congress passed the Brooke Amendments, beginning in 1969, which limited the rent that tenants could be charged to 25 percent of their incomes and authorized a program of federal subsidies to pay for the operating costs that public housing agencies could no longer meet with rental income alone.

Rising subsidy levels during the mid-1970s resulted in concerns that the operating subsidies were being distributed without effective cost controls and that there was little incentive for good management. The Congress directed the Secretary of HUD to establish a formula mechanism for subsidizing the cost of providing public housing. As a result, HUD developed the PFS in 1975.<sup>2</sup>

### **Description of the PFS System**

The PFS consists of a number of technical components and decision rules for their use. Together, the decision rules and technical components determine the Allowable Expense Levels (AEL) of public housing agencies and the treatment of tenant income and other revenues. The technical components include the prototype cost equation, the inflation factor, the utilities expense calculation, calculation of PHA income and occupancy rates, and the calculation of audits and other eligible costs. Two important decision rules determine the use of these cost and

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<sup>2</sup> This background of Public Housing is from the General Accounting Office (GAO/RCED-99-210)

income calculations: the base year and the range test. The base year rule sets allowable expenses in the first year at a level equal to the PHA's approved budget, if the budget was within an acceptable range around the expenses estimated using the prototype cost equation. Twice over the program's life, HUD has used quantitative cost models, based on two different sets of cost data, to better define subsidy levels: once at the outset to establish an upper limit for allowable costs and again in 1992 to adjust some agencies' costs which, according to the second cost model, were less than 85 percent of their predicted levels.

Since its inception, PFS has come under constant review by HUD and others seeking to find a more effective mechanism for allocating Congressional appropriations to housing agencies. Critics of the PFS formula believe that it had conceptual design flaws and is outdated. For example, a large range of funding values was permitted in establishing the 1975 base year subsidy entitlements for otherwise similar PHAs. With some minor adjustments, the current system consists of the 1975 cost allowances that have been inflated annually with formula factors without consideration for changes in the management or operating environment that influence operating costs.

### **Negotiated Rulemaking Advisory Committee on the Operating Fund**

The Quality Housing and Work Responsibility Act of 1998 (Public Law 105-276, "QHWRA") called for the establishment of two new funds for public housing – a Capital Fund and an Operating Fund – that would replace, respectively, the Comprehensive Grant Program (CGP) and the Performance Funding System (PFS). Congress then directed HUD to initiate negotiated rulemaking with affected industry groups in order to determine how the monies from those funds would be distributed.

The Operating Fund Negotiated Rulemaking committee met in 1999. While the committee agreed on certain adjustments, it was unable to come to a resolution on a new formula, primarily due to a lack of data on what it should cost to run good quality public housing. As a result, the Conference Report (H.R. Rep. No. 106-379 at 91 (1999)) accompanying HUD's Fiscal Year (FY) 2000 Appropriations Act (Pub. L. 106-74, approved October 20, 1999) provided funds to conduct a study to determine the cost to operate well-run public housing and directed HUD to contract with Harvard University's Graduate School of Design for completion of that study. The study is known as the Public Housing Operating Cost Study (PHOCS). Congress further directed that HUD make the results of the Cost Study available to the negotiated rulemaking committee and appropriate congressional committees.

A Negotiated Rulemaking Advisory Committee was reconvened to provide advice and recommendations on developing a rule for revising regulatory provisions of the Operating Fund Program based on the findings of the PHOCS. The advisory committee held four meetings to complete its work. Representatives from the following groups negotiated with the HUD delegation: the public housing industry (PHADA<sup>3</sup>, CLPHA<sup>4</sup>, NAHRO<sup>5</sup>, and NOAAH<sup>6</sup>), PHAs,

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<sup>3</sup> Public Housing Authorities Directors Association

<sup>4</sup> Council of Large Public Housing Authorities

<sup>5</sup> National Association of Housing and Redevelopment Officials

<sup>6</sup> National Organization of African-Americans in Housing

tenant groups, the real estate and finance industry, and the Harvard Graduate School of Design staff who worked on the PHOCS.

## **Harvard Graduate School of Design Public Housing Operating Cost Study**

The Harvard Graduate School of Design (GSD) report on the cost of operating public housing was funded by Congress to provide the Negotiated Rulemaking Advisory Committee with estimates of needed operating expense levels as the basis for developing regulatory changes to the operating formula. The specific objectives of the Operating Cost Study were to determine appropriate operating costs for the 3,141 public housing authorities around the country.

Estimating individual operating cost needs for each PHA was not a straightforward task. First, examining the operating costs of properties is, in most cases, impossible because PHAs do not usually keep accounts at the property level. Second, examining operating costs of public housing authorities is not a good means of discovering the appropriate level of funding, because housing authorities have few incentives to minimize the costs of providing housing. Lacking a profit incentive, PHAs will tend to spend whatever subsidies they are given. Researching the determinants of operating costs in the private sector, where the market imposes competitive pressures on producers of housing services, can yield insights on what constitute reasonable operating costs. The GSD utilized a database of FHA-insured rental properties that included a high proportion of HUD-assisted properties. The advantage of the FHA data is that the owners of the assisted properties are subject to similar regulations as are public housing authorities.<sup>7</sup>

The GSD ran a series of regressions to determine the factors that determine the operating costs of rental housing. Data on variables such as building characteristics (size, age, and type of structure), unit size, ownership type (non-profit, for profit, or limited dividend), characteristics of the clientele (percent assisted and whether family or senior), and location characteristics (neighborhood poverty rate and whether the project is within a central city) were available. A statistical model of operating costs was developed and tested.<sup>8</sup> The model and project-specific data inputs to the model were then used to generate estimates of what it would cost to operate each public housing project if it were subject to the discipline of the market.<sup>9</sup> The model was validated through extensive field-testing that compared actual and predicted project costs for a sample of projects in the case study with emphasis on projects with the largest differences between actual and predicted operating costs.

The proposed rule would implement the recommendation of the Harvard GSD report to replace the current subsidy factor known as the Allowable Expense Level (AEL) factor with a new Project Expense Level (PEL). Each project within a PHA would have its own unique Project Expense Level (PEL), which reflects the normal non-utility expense level necessary to adequately fund the non-utility operating expenses for public housing projects at levels comparable to those needed in the private sector to adequately maintain comparable projects. The detailed results of the study were published by the Harvard GSD and made available to the negotiated rulemaking committee.

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<sup>7</sup> See Chapter 3 of the Cost Study for a description of the regulatory environment.

<sup>8</sup> The model produced an R-squared of 0.53 and the average confidence interval around model predictions is +/- 12 percent (see page 7 of the GSD Operating Cost Study for more).

<sup>9</sup> For a detailed discussion of the application of the model, see pages 17-20 of the GSD Operating Cost Study.

## Use of Data in the Proposed Rule and Data Quality

The proposed rule provides a replacement for the PFS funding mechanism that is based on more current and objective data. The regulatory changes in the rule reflect the recommendations made by the negotiated rulemaking committee, with some modifications to better reflect Administration policies and budgetary priorities on ways to improve and clarify the rent regulations governing the Operating Fund Program. Changes were also made to more clearly reflect the recommendations of the Congressionally mandated PHOCS (see the preamble of the proposed rule for a summary of the differences between the proposed rule and the recommendations of the negotiated rulemaking process).

As discussed previously, PHOCS used a series of regressions on data from FHA-financed private-market rental housing to quantify the factors that determine the operating costs of rental housing. A log-linear regression model of operating costs was developed and tested. The parameters of the empirical model, in conjunction with data for each property, were then used to generate estimates to predict what it would cost to operate each public housing project if it were subject to the discipline of the market. The model was checked through extensive field-testing that examined a series of case studies.

Looking for data on which to base costs outside of the public housing program itself, the most logical choice would seem to be the operating costs of private market housing. Unfortunately, there is no comprehensive enough source of private cost data to form the basis for a subsidy allocation system for a nationwide housing program. Data collected by the Institute of Real Estate Managers (IREM) is not stable from year to year, cannot be identified with particular localities to a sufficient degree, and reflects operating expenses of apartments that differ a great deal from public housing in the characteristics of both the buildings and the tenants. Nonetheless, the magnitude of the difference between operating costs reflected in IREM and the FHA data and the operating costs of public housing lends credibility to the assertion that some PHAs are being given disproportionately high levels of operating funds under the current operating subsidy system.

While the PHOCS concluded that, given the lack of consensus as to what quality and level of housing and non-housing services should be included in estimating public housing funding needs, it was impossible to effectively determine how much it should cost to run public housing, it determined that it was possible to compare public housing to FHA-assisted properties. Public housing costs were benchmarked to FHA operating budgets based on 10 components using statistical techniques.<sup>10</sup> As noted, the proposed rule would implement the recommendation of the PHOCS to replace the current PHA-level Allowable Expense Level (AEL) factor with a new Project Expense Level (PEL) for each project within the PHA. Under this system, a PHA's overall funding level is comprised of the sum of each of its respective projects' PELs.

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<sup>10</sup> According to the PHOCS, the FHA database had a number of advantages over other sources: The FHA database includes a comparable number of units (1.5 million FHA, 1.2 million public housing), in a similar number of projects, and serving similar residents.

## Analysis of the Rule: Transition to Asset Management

One of the major findings of the PHOCS is that HUD should require property-based accounting and management, as is the norm in private industry, rather than using an agency-management model when assessing the financial management of PHAs. Many PHAs do not currently maintain records at a project level, and can only provide summary agency-level information on expenses. Although PHAs are required to keep project-based accounts, loopholes have allowed them to avoid doing so.<sup>11</sup> A primary justification of this proposed rule is that the availability of detailed project level expense data is essential to effective PHA asset management. Many of even the most basic sound management practices used in the private sector cannot be used in the absence of project-level data, which in turn means that tenants' housing needs are not being met in the most efficient way. Without project level data, it is impossible to identify unusually high or low cost project expenditure components or to do a comparative analysis to identify unusual operating cost patterns. The absence of these data, in turn, makes it impossible for managers to determine how to allocate funds for individual properties and how to identify projects with unusually high operating cost components that require management intervention and correction. Project-level accounts will allow managers and auditors of PHAs to more accurately evaluate the appropriate strategies to improve the operation of individual projects as well as to allocate operating funds among projects. It will also facilitate decisions as to whether to abandon a failing project or, if not, how to effectively rescue it.

It could be argued that managers of PHAs who do not already collect financial and cost information on their properties will not effectively use this information. However, the collection of property level data is likely to affect PHA board and senior management decisions and will also enable HUD to re-orient the way it manages and evaluates a PHA's performance. Currently, HUD evaluates organizations and not properties. Having staff who track the performance of individual properties should lead to higher levels of performance with respect to the physical conditions of properties, occupancy status, and asset management. Collection of operating cost data will also greatly assist any new managers of PHAs to reform obsolete management practices, provide a wealth of data to independent auditors, and facilitate the eventual re-calculation of operating subsidy formulas.

It is difficult to estimate the economic impact of improved management of public housing that is likely to result from the change from centralized accounting to project-based accounting. Private market projects never centralize accounts as do PHAs, and centralization of accounting systems therefore was not one of the variables in the empirical model. In theory, the benefits would be measured by the market value of the increased quality and quantity of housing services derived from a more efficient use of funds. Even if these benefits were small as a proportion of the total costs of operation, a cost reduction of more than 2.9 percent<sup>12</sup> of the total operating subsidy would be economically significant. Although the benefits of using project-level financial and cost data to manage properties are thought to be substantial, there are associated costs. Few PHAs maintain project-based accounting and budgeting systems and, for some, there may be significant costs to re-organizing data collection and accounting systems. Given that a large proportion of the costs of moving to a new system will be fixed, the smaller PHAs are likely to incur higher transition costs than the large ones, although the proposed rule allows for agencies with 250 or fewer public housing units to elect not to follow the asset management model.<sup>13</sup> The accounting and data system costs, however, are likely to be secondary to the costs associated

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<sup>11</sup> See page 85 of the PHOCS for a brief description of the loophole.

with the “culture” changes needed to effectively use the new information. PHAs will need to transition from an agency-centric to a property-centric management model.

### **Financial Impacts of the Proposed Rule**

The proposed rule would increase the overall funding eligibility for public housing operating subsidies and alter the flow of transfers.

The estimates provided throughout this economic impact analysis are premised on full funding of the operating subsidy amounts PHAs are eligible for under the current and proposed funding systems. In practice, in recent years the Congress has not always fully funded operating subsidies. In the event that future levels of Congressional appropriations are kept constant or decreased, PHAs would be assigned their proportion of a fully funded formula program. The actual amount they receive would be based on whatever funding level is appropriated by the Congress. Thus, the relative impacts of each system would remain the same but the absolute dollars provided could change.

Using FY 2003 data, HUD’s Office of Public and Indian Housing estimates that the implementation of the proposed rule would have increased the net eligibility of housing agencies for operating funds by about \$83 million (2.4%) over a five-year period, from \$3.520 billion to \$3.603 billion. If the proposed rule system was fully funded in FY 2003 with all provisions, including the freeze on how rental income is counted, the proposed rule would cost an additional \$74 million in annual operating subsidies.

### **Distribution of Increases and Decreases**

The PEL system affects both the level of Operating Fund subsidies that HUD would request and the distribution of appropriated subsidy funding. For analysis purposes, full funding of \$3.603 billion in 2003 dollars is assumed. In the absence of full funding, the relative distributions would remain the same but the absolute level of subsidies provided would be reduced.

Three points should be noted with reference to both subsidy losses and gains resulting from the proposed rule. One is that they are expressed relative to the amount of operating subsidy currently received rather than compared to overall PHA budget levels. Thus, the percentage subsidy changes overstate the impacts on a PHA’s overall budget, which also includes rental and other income. The second point is that the PEL system results in providing all PHAs a close approximation of what they would normally have to spend for operation and maintenance if they were operating an equivalent group of well-maintained private market projects. What the research behind the proposed rule shows is that the PHAs with the largest subsidy losses are those that have been the beneficiaries of inequities under the current rule. Such agencies will need to adjust their operating practices, but will have a transition period for doing so and should also be able to take advantage of the improved management practices available with project-

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<sup>12</sup> The Public Housing Operating Funds was appropriated \$3.520 billion in FY 2003 so that \$100 million is 2.84 percent of that amount.

<sup>13</sup> Alternatively, one could argue that because large PHAs probably have larger bureaucracies, they might be less flexible in adjusting.

based accounting. The third and major consideration is that all PHAs will have the income amount used in determining subsidy frozen and, unlike the current system, restricted solely to rental income (full subsidy entitlement = subsidy eligibility – income). The impact of freezing rental income is difficult to predict, but it should prove to be a significant bonus to most PHAs.

## Distribution of Decreases

Table A-1 shows the list of PHAs that stand to lose the most from the implementation of the proposed rule. As it can be seen, 14 of the biggest decreases are in large, urban, predominantly Northeastern PHAs. These 14 PHAs collectively account for about 72 percent of the reduction in operating subsidy eligibility. The New York City Housing Authority would bear about 43 percent of the aggregate reductions and would lose 17 percent of its Operating Fund eligibility. The Alaska Housing Finance Agency stands to lose about 83 percent of its Operating Fund eligibility. Other PHAs that would lose a substantial share of their Operating Fund eligibility are: Rochester, NY (50%); Syracuse, NY (43%); Buffalo, NY (38%); and Las Vegas, NV (38%).

A number of additional large PHAs would have had substantial reduction in operating funds eligibility except for the protection allowed both under the negotiated rulemaking and this proposed rule for PHAs participating in the Moving To Work (MTW) program. Under the proposed rule, PHAs participating in the MTW demonstration would continue to receive operating subsidy as provided in MTW Agreements executed prior to the effective date of the proposed rule.

**Table A-1: Largest PHA Decreases**  
(Proposed Rule Eligibility With Full Funding -- 2003 Impacts with No Transition)

PHA Name	Current Rule	Proposed Rule	Dollar Reduction	Percent Reduction
New York City HA	\$759,219,776	\$629,951,175	-\$129,268,601	-17.0%
Cuyahoga	\$48,910,506	\$35,996,987	-\$12,913,519	-26.0%
Baltimore HA	\$56,757,548	\$44,929,484	-\$11,828,064	-21.0%
Newark HA	\$42,599,296	\$31,260,494	-\$11,338,802	-27.0%
Buffalo Municipal HA	\$18,792,648	\$11,702,649	-\$7,089,999	-38.0%
Alaska HFC	\$7,847,554	\$1,318,147	-\$6,529,407	-83.0%
San Francisco HA	\$27,956,818	\$21,850,653	-\$6,106,165	-22.0%
Los Angeles City	\$28,089,260	\$22,077,002	-\$6,012,258	-21.0%
Detroit HA	\$14,454,530	\$10,327,164	-\$4,127,366	-29.0%
Rochester HA	\$8,084,487	\$4,008,818	-\$4,075,669	-50.0%
Las Vegas	\$11,119,508	\$7,078,368	-\$4,041,140	-36.0%
Syracuse HA	\$9,331,057	\$5,312,386	-\$4,018,671	-43.0%
Cincinnati Metropolitan	\$18,373,704	\$14,757,944	-\$3,615,760	-20.0%
Birmingham HA	\$22,032,024	\$18,522,817	-\$3,509,207	-16.0%

## Distribution of Increases

Table A-2 shows the list of housing agencies that with the largest percentage increases in operating subsidies with implementation of the proposed rule. Collectively, the 14 PHAs with the largest percentage subsidy increases would get 35 percent of the aggregate gross increase in operating eligibility. The Puerto Rico Housing Authority receives about 21 percent of the total increase, and it's eligibility for Operating Funds increases by 83 percent. The Monroe Housing Authority in Louisiana would have a 224 percent increase in its eligibility for Operating Funds – increasing from \$983,395 to \$3,187,403 to a level more consistent with other similarly situated PHAs. Other housing agencies that would gain from the implementation of the proposed rule are: New Bedford, MA (76 percent); El Paso, TX (66 percent); Dallas, TX (56 percent); Hoboken, NJ (54 percent); and, Houston, TX (percent).

**Table A-2: Largest PHA Increases**  
(Proposed Rule Eligibility With Full Funding -- 2003 Impacts with no Transition)

PHA Name	Current Rule	Proposed Rule	Dollar Increase	Percent Increase
Puerto Rico HA	\$100,750,573	\$183,963,121	\$83,212,548	83%
Atlanta HA	\$27,153,795	\$34,240,258	\$7,086,463	26%
Dallas HA	\$10,890,647	\$16,948,413	\$6,057,766	56%
El Paso	\$9,178,518	\$15,219,330	\$6,040,812	66%
Boston HA	\$48,181,148	\$54,101,382	\$5,920,234	12%
Hoboken HA	\$6,804,332	\$10,499,025	\$3,694,693	54%
DPAH - Washington DC	\$44,528,978	\$48,178,121	\$3,649,143	8%
Hawaii HA	\$10,807,097	\$14,275,427	\$3,468,330	32%
New Bedford HA	\$3,568,271	\$6,296,719	\$2,728,448	76%
Dade Co HA	\$28,244,551	\$30,958,789	\$2,714,238	10%
Charlotte	\$7,647,910	\$10,310,430	\$2,662,520	35%
Denver HA	\$8,826,018	\$11,459,738	\$2,633,720	30%
Houston HA	\$7,958,297	\$10,515,369	\$2,557,072	32%
Monroe, LA	\$983,395	\$3,187,403	\$2,204,008	224%

## Transition Funding

The proposed rule would implement a transition policy aimed at assisting housing agencies transition to the new funding levels as determined by the formula set forth in the proposed rule. The following table shows the budget impacts associated with the transition policy provided in the proposed rule. The impacts are expressed relative to the 2003 full funding level under the existing PFS formula and do not account for changes associated with freezing rental income or vacancies in the proposed subsidy formula.

**Table A-3: Transition Funding Levels**  
**Change from FY 2003 (millions of dollars)**  
(Changes due solely to impacts of transition funding policy)<sup>14</sup>

	<b>Year 1 Transition</b>	<b>Year 2 Transition</b>	<b>Year 3 Transition</b>	<b>Year 4 Transition</b>	<b>Year 5 Transition</b>
<b>Subsidy Reduction Limit</b>	24%	43%	62%	81%	100%
<b>Reduction Subtotal</b>	-\$78 mil.	-\$140 mil.	-\$202 mil.	-\$263 mil.	-\$325 mil.
<b>Subsidy Increase Limit</b>	20%	40%	60%	100%	100%
<b>Increase Subtotal</b>	\$70 mil.	\$140 mil.	\$210 mil.	\$350 mil.	\$350 mil.
<b>Net Transition Funding Change</b>	-\$8 mil.	\$.25 mil.	-\$8.5 mil.	\$86.75 mil.	\$25.0 mil.

## Formula Income

In general terms, the Operating Fund pays for the difference between the PHA's operating expense and its income. The proposed PEL formula contains incentives for a PHA to increase its non-operating subsidy (i.e., primarily rental income) revenue. Only tenant rent is used in the formula, and even this figure will be frozen at 2004 levels for three years. Therefore, any change in rental or other income does not increase or decrease a PHA's operating subsidy entitlement. It is likely that most PHAs will seek to increase their income streams, especially those PHAs that will have their Operating Fund reduced as a result of this proposed rule. Although this economic analysis does not attempt to quantify the impact of the policy to freeze incomes and maximize the incentive for a PHA to increase its non-operating subsidy revenue, it is likely that related actions will increase the funding available to most PHAs by at least modest amounts.

## Transfer Among Size Groups

PHAs with less than 500 units will gain approximately 37 percent of the increase in funding resulting from the implementation of the new formula. PHAs with more than 6,500 units will see a reduction in funding with the exception of Puerto Rico. It again should be noted however, that a number of large PHAs that would have had a reduction in funding would not have their total operating subsidy reduced because they participate in the "Moving To Work" program and these PHAs will continue to have their operating subsidy calculated in accordance with the MTW agreement. Table A-4 summarizes the impact of the proposed rule based on a PHA size grouping.

<sup>14</sup> The full implementation cost after transition is affected by treatment of vacancies and the freeze on the amount of rental income used in calculated operating subsidy eligibility, and is \$83 million rather than \$25 million.

**Table A-4: Distribution by PHA Size**  
(Proposed Rule Eligibility with Full Funding -- 2003 Impacts with No Transition)<sup>15</sup>

PHA Size Class	Gross Increase for PHAs Gaining Funds	Gross Decrease for PHAs Losing Funds	Net Change in Funds
Less Than 100 Units	\$18,021,357	-\$7,804,898	\$10,216,460
100 - 249 Units	\$37,832,744	-\$13,593,564	\$24,239,180
250 - 499 Units	\$77,151,036	-\$9,378,125	\$67,772,911
500 - 1,249 Units	\$82,405,935	-\$18,709,435	\$63,696,499
1,249 - 6,500 Units	\$81,757,107	-\$84,973,571	-\$3,216,464
More Than 6,500 Units	\$81,490,138	-\$153,265,306	-\$71,775,168
<b>Total</b>			<b>\$74,000,000<sup>16</sup></b>

### Gains in Efficiency

The PHOCS and the rule share the expectation that the change in the distribution of funding under the proposed rule would result in efficiency gains and increase benefits to program participants and overall societal benefits. The redistribution of operating subsidy funds is expected to increase efficiency for two reasons. One is that the additional information made available with project-based accounting will lead to more efficient management of existing resources. The other reason for an expected efficiency increase relies on the assumption that there are diminishing marginal returns in the production of housing services as operating subsidy funds increase relative to a market-based operating cost baseline. Thus, PHAs receiving funding increases will produce more housing services than will be lost at PHAs having funding decreases under the rule. No systematic study of the marginal returns to public housing operating subsidy has been made, however, and doing so is beyond the scope of this analysis. However, the outlines of such a study are provided below.

There are two approaches that could be used to measure the impacts of the funding changes. One is to measure objective changes in the maintenance and physical condition of public housing agencies gaining and losing funding, starting with the current period, and doing a follow-up no sooner than three or four years from now after funding levels have significantly changed. It should be noted, however, that past research has not found a strong correlation between quality of housing and maintenance expenditure levels.

An alternative approach is to compare resident satisfaction ex-post to current resident satisfaction, using the resident satisfaction indicator under the Public Housing Assessment System (PHAS).<sup>17</sup> Consider, for example, a public housing resident who receives utility from a consumer good, X, and the characteristics of housing: h1, h2,..., hn. Characteristics of housing would include variables such as external building conditions; square feet per person; the quality

<sup>15</sup> These distributional impact figures do not include estimated savings from elimination of the 3% vacancy rate, which are shown separately at the aggregate level. With the elimination of the 3% vacancy rate provision, the first year impact of the proposed rule is -\$36 million and the five-year cost is +\$83 million.

<sup>16</sup> This total is non-additive with the numbers provided above because some subsidy calculation changes could only be costed out at the national level, but the net changes should be proportionate to those shown.

<sup>17</sup> The Public Housing Assessment System has a set of management indicators like its predecessor, the Public Housing Management Assessment Program (PHMAP) that is designed to measure the efficiency and management of housing authorities.

of plumbing, heating, and electricity; amenities such as a garage or balcony; pest control; the quality of kitchen and laundry facilities. It is possible to summarize all of these characteristics by an indicator,  $H(h_1, h_2, \dots, h_n)$ , of housing quality. The indicator represents consumers' overall satisfaction with the housing unit, such that increasing the quality of one characteristic can offset the decrease in the quality of another. It is possible to estimate how housing quality varies with housing prices from American Housing Survey data, which include extensive characteristics of housing units as well as a rating of the consumers' satisfaction with the structure.

To understand the impact of the new formula on societal benefits, consider a simple example of two housing agencies: one that will gain from the introduction of the new formula and one that will lose. Suppose that the two agencies are identical in every aspect such that both would receive the same subsidy using the proposed formula. Given that the two public housing agencies are assumed to be identical, they will face the same cost function for providing housing quality. Thus, the new formula is likely to result in at least some equalization of funds spent to improve housing quality so that, by the end of transition, both PHAs have the potential to provide similar levels of quality. The relative change in quality provided will depend upon the size of the transfer and the cost function for producing housing quality, as well as budget allocation decisions made by each of the respective PHAs. The impact on consumers, however, depends on the utility they receive from housing quality.

The standard assumption in economic theory is that the increase in utility from the consumption of an additional unit of a good is not as great as the increase in utility from consumption of the previous incremental unit of that good (diminishing marginal utility). For example, using chocolate consumption as a metaphor for expenditures on housing quality, an individual would have a higher level of satisfaction with 10 (identical) chocolates a week than five. He or she would be happier with 20 than 15 chocolates a week, but the increase in happiness from 15 to 20 chocolates would not be as great as from five to 10 chocolates. The same reasoning would apply to components of housing quality, such as frequency of grounds and hall cleaning, just as much as it does to resident satisfaction.

Making the simplifying assumption that the marginal cost of producing additional housing services is constant, an equal transfer of funds would result in an equal transfer of quality. Due to diminishing marginal utility, the gain in utility of the resident of the winning PHA would be greater than the loss to the resident of the losing PHA. The relative increase would be even greater if the marginal cost of producing proportional quality improvements were increasing, as is generally likely.

Moving from this informal discussion to a framework for measuring the change in societal benefits would require substantial effort. One of the theoretical challenges is to define the mission of a PHA. While the Harvard Study estimated the costs that it would require to produce decent quality housing, many PHAs have undertaken additional duties, often with encouragement from HUD. For example, large PHAs are often responsible for security, infrastructure, and other public services. PHAs also often provide social services such as job training and support for child care programs. A reduction of subsidies may lead to a decrease in public services as well as housing services for some PHAs. Currently, PHAs spend collectively about 5 percent of their non-utilities operating funds for non-housing related services such as tenant and protective services. It is unclear, however, if this percentage will increase or decrease for the PHA community as a whole as a result of implementing the proposed rule.

Empirically, the challenge of a study that seeks to measure changes in PHA efficiency resulting from the funding changes proposed will be to translate the change in operating subsidies to a change in housing services. The Public Housing Assessment System data provide measures of tenant satisfaction as well as characteristics of the PHA. A first step towards estimating societal benefits of the subsidy redistribution would be to divide the PHAs into broad categories by funding changes from those that face a substantial decrease in operating subsidies to those that face a substantial increase. A multi-variate model of tenant satisfaction could then be developed with the proposed subsidy change as an independent variable. A major difficulty will relate to predicting how PHAs will respond to the rule because, as noted, PHAs have different cost functions and can make different choices.

In summary, even a rough measure of the gains in efficiency would require substantial theoretical and empirical research that is beyond the scope of this analysis.

### **Discussion of Alternatives.**

There are two obvious alternatives to the proposed rule. One is to leave the current system unchanged. Another option is to implement all of the recommendations of the negotiated rule-making committee.

The Negotiated Rule-making Committee's recommendations differ in the details of the changes, the full funding program requirements and in the distributional impacts of the changes on any given PHA. The proposed rule is based on the recommendations made by the Negotiated Rulemaking Advisory Committee, with some modifications to better reflect Administration policies and budgetary priorities. A detailed summary of the differences between the Committee's proposals and the proposed rule is provided in the preamble to the proposed rule, but the major differences found in the proposed rule may be summarized as follows:

1. No \$2 per unit month Public Entity Fee.
2. No Operating Subsidy for Vacant Units. HUD will continue to pay subsidy for dwelling units meeting special circumstances (e.g., units undergoing modernization, special use units, etc).
3. No change to PEL Inflation Factor. The Committee recommended that the inflation factor should be based on information published by the Department of Labor Bureau of Labor Statistics (BLS).
4. Nonprofit Ownership Coefficient reduced from ten percent to four percent.
5. Phase-In of Operating Subsidy Gains over four years instead of two.
6. No Discontinuation of Subsidy Reduction Through Demonstration of Successful Conversion to Asset Management.
7. PHAs that would have received an increase in funding under the Negotiated Rulemaking Committee's recommendations that lose funding under the current proposed rule would be assigned a PEL that used the first four of the factors listed in this subsection. The proposed rule would provide an "add on" for these PHAs equal to the difference between the PHA's operating subsidy calculated under the formula in the proposed rule and the amount of the PHA's operating subsidy under the

proposed rule with the application of the factors 1 through 4 listed above. These PHAs would receive funding for (1) a \$2 PUM public entity fee; (2) payment of operating subsidy on a limited number of vacancies if the annualized rate is less than or equal to three percent; (3) an annual inflation factor based on the most recent annual data published by the BLS; and (4) a ten percent nonprofit coefficient.

**8. Sanctions would apply to PHAs that fail to convert to Asset Based Management.**

Under a full eligibility funding scenario, the Committee's recommendations would result in a \$250 million or 5 percent increase in subsidy funding above the current formula level in FY 2006 (Year 1) and a \$435 million increase in FY 2011 (Year 5). Over a five-year period, full funding of the Committee's recommendations would require increased appropriations of \$2.1 billion.

Under a "constant budget" scenario, which assumes that appropriations for the Operating Fund remains at the FY 2003 level of \$3.520 billion and 100 percent eligibility, the Year 1 cost of the Committee's recommendations of \$250 million would result in a proration level of 93 percent.

The following table shows the distributional impact of the Committee's recommendations by PHA size category under a full funding scenario.

**Table B-1: Distributional Impacts of Committee's Recommendations  
by PHA Size  
(2003 Eligibility With Full Funding and No Transition)**

PHA Size Class	Gross Increase for PHAs Gaining Funds	Gross Decrease for PHAs Losing Funds	Net Change in Funds
<b>Less Than 100 Units</b>	\$27,469,089	-\$4,496,624	\$22,972,465
<b>100 - 249 Units</b>	\$57,265,744	-\$7,911,970	\$49,353,774
<b>250 - 499 Units</b>	\$105,530,893	-\$5,414,821	\$100,116,072
<b>500 - 1,249 Units</b>	\$118,156,990	-\$10,000,409	\$108,156,581
<b>1,249 - 6,500 Units</b>	\$135,389,476	-\$47,113,942	\$88,275,534
<b>More Than 6,500 Units</b>	\$116,665,236	-\$50,522,994	\$66,142,242
<b>Total</b>			<b>\$435,016,668</b>

Proposed Rule. Under the proposed rule, which modified the Committee's recommendations to better reflect Administration's policies and budgetary priorities, the full implementation cost of the rule in FY 2003 dollars would be \$74 million. The component gains and losses shown are a close approximation of the net values, but do not contain all of the adjustments needed to provide as accurate a national net impact estimate as possible, which is why the sum of the net changes (\$91 mil.) differs from the estimated net total increase in funding requirements of \$74 million.<sup>18</sup>

<sup>18</sup> This total is non-additive because some of the full implementation provisions relating to vacancies and freezing rental income for subsidy calculation purposes can only be costed out at the national level, but the component numbers accurately reflect the distributional affects since the variables not included should have roughly equal impacts over all size categories.

**Table B-2: Distributional Impacts of Proposed Rule by PHA Size**  
**(2003 Eligibility With Full Funding and No Transition)<sup>19</sup>**

<b>PHA Size Class</b>	<b>Gross Increase for PHAs Gaining Funds</b>	<b>Gross Decrease for PHAs Losing Funds</b>	<b>Net Change in Funds</b>
<b>Less Than 100 Units</b>	\$18,021,357	-\$7,804,898	\$10,216,460
<b>100 - 249 Units</b>	\$37,832,744	-\$13,593,564	\$24,239,180
<b>250 - 499 Units</b>	\$77,151,036	-\$9,378,125	\$67,772,911
<b>500 - 1,249 Units</b>	\$82,405,935	-\$18,709,435	\$63,696,499
<b>1,249 - 6,500 Units</b>	\$81,757,107	-\$84,973,571	-\$3,216,464
<b>More Than 6,500 Units</b>	\$81,490,138	-\$153,265,306	-\$71,775,168
<b>Total</b>			<b>\$74,000,000</b>

<sup>19</sup> These distributional impact figures do not include estimated savings from elimination of the 3% vacancy rate which are shown separately at the aggregate level.